

# INCREMENTAL CONSOLIDATION & SWELL

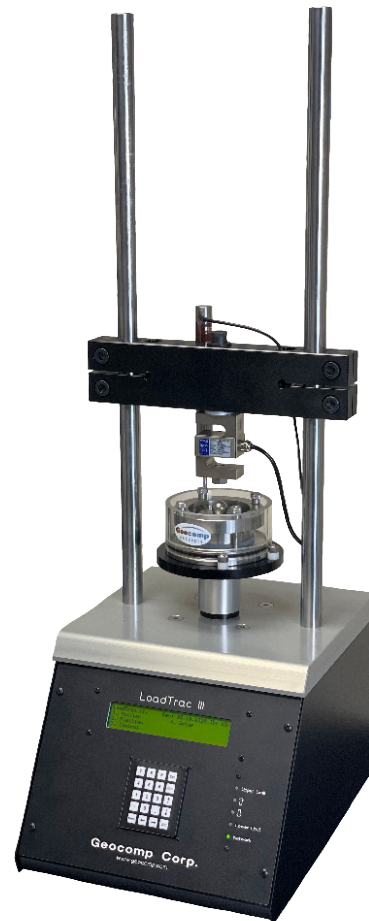
## LOADTRAC III

The LoadTrac III system for incremental consolidation and swell testing fully automates an entire consolidation test. Constant load and constant volume swell tests can be run automatically. Once a sample is placed into the load frame, the test conditions programmed, and the test started, the LoadTrac III system performs the complete test, up to 32 steps without intervention by the user. The computer automatically increments to the next stress by using conditions specified by the user. A test can be completed in 24 to 48 hours on most materials.

- Built in safety features
- Smart and sophisticated technologies to simplify testing
- Repeatable, reliable, and accurate results you can trust
- Real-time and remote test parameter changes for quality control
- Convenient reporting and data export
- Faster, smarter, better: designed with full automation and manual control options
- Easy upgrade to perform additional test types
- Designed and manufactured in the USA

### Applicable Test Standards

- ASTM D2435, D4546
- AASHTO T216
- BS 1377-5
- ISO/TS 17892-5
- AS 1289.6.6.1



Standard Incremental Consolidation  
& Swell System

# INCREMENTAL CONSOLIDATION & SWELL LOADTRAC III



## TECHNICAL SPECIFICATIONS

### LOAD CAPACITY

Up to 11 kN (2.5 kLbf)

### MOTOR

Micro-stepper system with built-in controls

### RATE OF DISPLACEMENT

0.000013 to 42 mm/min  
(0.0000005 to 1.6 in/min)

### TRAVEL

38.1 mm, (1.5 in)

### POWER

110/220 V, 50/60 Hz, 1 phase

### DIMENSIONS

305 x 381 x 838 mm (12 x 15 x 33 in)

### WEIGHT

20 kg (44 lbs)

### INCLUDED

- GeoNet-U USB 2.0 network adapter and cable to link to PC/laptop
- ICONP software module to automatically run and report tests

### ACCESSORIES

- Fixed ring consolidometer (stainless steel) includes sample cutting ring, porous stone, and loading ball
- Consolidation cell with back pressure capabilities
- Standard size 2.5 in (63.5 mm); other sizes available upon request

### WARRANTY

12 month warranty; extended warranties available

## User Friendly Interface

ICONP

File View Run Calibrate Control Report Options Help

Project Specimen Water Content Read Table Test Parameters Consolidation Table

Test Standard: ASTM D2435 - Method B

Machine Correction:  Enable

Calculate Results at:  End of Increment  
 End of Primary  
 Specified Time

0.2167 min

Final Height: 19.05 mm

Current Vertical Effective Stress: 39.740618390959 kPa

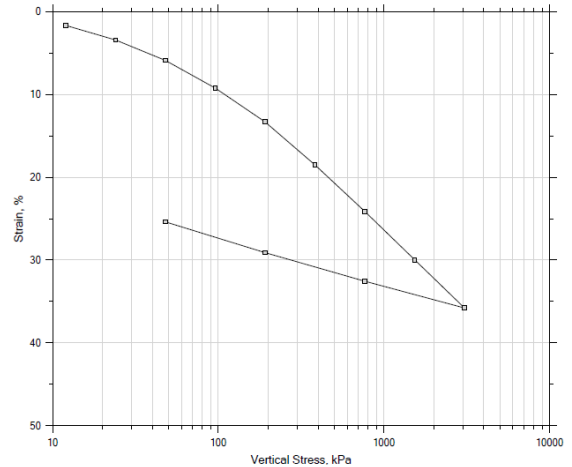
Preconsolidation Stress: 67.0323683702923 kPa

Compression Ratio: 0.5

## Typical Test Output

### One-Dimensional Consolidation by ASTM D2435 - Method A

Summary Report



		Before Test	After Test
Current Vertical Effective Stress: 39.74 kPa	Water Content, %	64.52	39.79
Preconsolidation Stress: 67.03 kPa	Dry Unit Weight, N/m <sup>3</sup>	9942.8	13337
Compression Ratio: 0.5	Saturation, %	99.43	100.00
Diameter: 63.5 mm	Void Ratio	1.92	1.18
Height: 25.55 mm			
LL: ---	PL: ---		
	PI: ---		
	GS: 2.96		

	Project: ABC456	Location: Acton, MA	Project No.: ICON123
	Boring No.: ABC	Tested By: GR	Checked By: NB
	Sample No.: 2A	Test Date: 02/17/2018	Depth: 10 ft.
	Test No.: C-1	Sample Type: Tube	Elevation: Not Recorded
Description: Moist, brown varved clay			
Remarks: measured post test height: 19.05 mm			
Displacement at End of Increment			

## Typical Test Output

### One-Dimensional Consolidation by ASTM D2435 - Method A

Log of Time Coefficients

Step	Applied Stress kPa	Final Displacement mm	Void Ratio	Strain at End %	Log T50 min	Cv cm <sup>2</sup> /s	Mv 1/kPa	k cm/s	Ca %
1	12.0	0.4246	1.87	1.66	10.438	5.05e-04	1.33e-03	6.87e-08	0.00e+00
2	23.9	0.8753	1.82	3.43	9.699	5.25e-04	1.47e-03	7.58e-08	0.00e+00
3	47.9	1.504	1.75	5.89	6.414	7.60e-04	1.03e-03	7.66e-08	0.00e+00
4	95.8	2.360	1.65	9.23	6.665	6.87e-04	6.99e-04	4.71e-08	0.00e+00
5	192	3.401	1.53	13.3	4.963	8.50e-04	4.26e-04	3.55e-08	0.00e+00
6	383	4.729	1.38	18.5	3.957	9.58e-04	2.71e-04	2.55e-08	0.00e+00
7	766	6.165	1.22	24.1	3.415	9.72e-04	1.47e-04	1.40e-08	0.00e+00
8	1.53e+03	7.657	1.05	30.0	2.283	1.25e-03	7.62e-05	9.34e-09	0.00e+00
9	3.06e+03	9.143	0.877	35.8	2.189	1.10e-03	3.80e-05	4.11e-09	0.00e+00
10	766	8.318	0.971	32.6	0.000	0.00e+00	1.41e-05	0.00e+00	0.00e+00
11	192	7.435	1.07	29.1	3.907	6.56e-04	6.01e-05	3.87e-09	0.00e+00
12	47.9	6.485	1.18	25.4	9.583	2.96e-04	2.59e-04	7.52e-09	0.00e+00

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